SEQUENCE LISTING

<110> Braun, Jonathan
     Wei, Bo
     Forbes, Ashley

<120> Methods of Diagnosing and Treating
    Crohn's Disease Using Pseudomonas Antigens

<130> P-PM 4968

<140> US 09/976,451
<141> 2001-10-12

<150> US 60/240,347
<151> 2000-10-13

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<213> P. fluorescens

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<221> CDS
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Met Thr Glu Pro Val Ser Thr Gly Arg Cys Asp Ser Pro Leu Leu Gln
 1               5                  10                  15

gcg ttc gtc gac aat cga ctg att ctg gtg aag atc gcg gcc cgt atc    96
Ala Phe Val Asp Asn Arg Leu Ile Leu Val Lys Ile Ala Ala Arg Ile
                20                  25                  30

acc ggg tgc cgc tcc cgc gcc gaa gac gtg gtg cag gac gcc tac ttc   144
Thr Gly Cys Arg Ser Arg Ala Glu Asp Val Val Gln Asp Ala Tyr Phe
            35                  40                  45

cgg ctg cag tcg gcg ccg acc atc acc tca tcg ttc aag gcc caa ctg   192
Arg Leu Gln Ser Ala Pro Thr Ile Thr Ser Ser Phe Lys Ala Gln Leu
        50                  55                  60

agt tat ctg ttt cag atc gta cgc aac ctg gcg atc gat cat tac cgc   240
Ser Tyr Leu Phe Gln Ile Val Arg Asn Leu Ala Ile Asp His Tyr Arg
65                  70                  75                  80
```

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aag cag gcc ctg gag ctc aaa tac tcc ggg acc gaa gag gaa ggc ttg    288
Lys Gln Ala Leu Glu Leu Lys Tyr Ser Gly Thr Glu Glu Glu Gly Leu
                85              90              95

aat gtg gtt att cac ggc gct tca ccg gaa acc tcg cac atc aat ttc    336
Asn Val Val Ile His Gly Ala Ser Pro Glu Thr Ser His Ile Asn Phe
            100             105             110

aac acc ctg gaa aac atc gcc gac gcc ctg acg caa ctg ccc cag cgc    384
Asn Thr Leu Glu Asn Ile Ala Asp Ala Leu Thr Gln Leu Pro Gln Arg
        115             120             125

acc cgc tac gcg ttc gag atg tac cgc ttg cat ggc gtg ccg caa aaa    432
Thr Arg Tyr Ala Phe Glu Met Tyr Arg Leu His Gly Val Pro Gln Lys
        130             135             140

gac atc gcc aag gag ctt ggg gtg tct ccg acc ttg gtg aac ttc atg    480
Asp Ile Ala Lys Glu Leu Gly Val Ser Pro Thr Leu Val Asn Phe Met
145             150             155             160

att cgc gat gcg ctg gtg cat tgc cgc aag gtg tcg ggc agt cat agc    528
Ile Arg Asp Ala Leu Val His Cys Arg Lys Val Ser Gly Ser His Ser
            165             170             175

gat acg ttt gcg cgg cgg gtt ta                                     551
Asp Thr Phe Ala Arg Arg Val
            180
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<210> 2
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<212> PRT
<213> P. fluorescens
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            20              25              30
Thr Gly Cys Arg Ser Arg Ala Glu Asp Val Val Gln Asp Ala Tyr Phe
            35              40              45
Arg Leu Gln Ser Ala Pro Thr Ile Thr Ser Ser Phe Lys Ala Gln Leu
    50              55              60
Ser Tyr Leu Phe Gln Ile Val Arg Asn Leu Ala Ile Asp His Tyr Arg
65              70              75              80
Lys Gln Ala Leu Glu Leu Lys Tyr Ser Gly Thr Glu Glu Glu Gly Leu
            85              90              95
Asn Val Val Ile His Gly Ala Ser Pro Glu Thr Ser His Ile Asn Phe
            100             105             110
Asn Thr Leu Glu Asn Ile Ala Asp Ala Leu Thr Gln Leu Pro Gln Arg
            115             120             125
Thr Arg Tyr Ala Phe Glu Met Tyr Arg Leu His Gly Val Pro Gln Lys
            130             135             140
```

```
Asp Ile Ala Lys Glu Leu Gly Val Ser Pro Thr Leu Val Asn Phe Met
145             150             155             160
Ile Arg Asp Ala Leu Val His Cys Arg Lys Val Ser Gly Ser His Ser
            .   165             170             175
Asp Thr Phe Ala Arg Arg Val
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<210> 3
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<212> PRT
<213> P. fluorescens

<400> 3
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Met Thr Glu Gln Val Ser Thr Ser Lys Cys Asp Ser Pro Leu Leu His
1               5               10              15
Ala Phe Val Asp Asn Arg Leu Ile Leu Val Lys Ile Ala Ala Arg Ile
            20              25              30
Thr Gly Cys Arg Ser Thr Ala Glu Asp Val Val Gln Asp Ala Phe Phe
            35              40              45
Arg Leu Gln Ser Ala Pro Pro Ile Thr Ser Ser Ile Lys Ala Gln Leu
    50              55              60
Ser Tyr Leu Phe Gln Ile Val Arg Asn Leu Ala Ile Asp His Tyr Arg
65              70              75              80
Lys Gln Ala Leu Glu Gln Lys Tyr Ser Gly Pro Glu Glu Glu Gly Leu
            85              90              95
Asn Val Val Ile Gln Gly Ala Ser Pro Glu Thr Ser His Ile Asn Phe
            100             105             110
Ser Thr Leu Glu Asn Ile Ala Asp Ala Leu Thr Glu Leu Pro Ser Arg
            115             120             125
Thr Arg Tyr Ala Phe Glu Met Tyr Arg Leu His Gly Val Pro Gln Lys
            130             135             140
Asp Ile Ala Lys Glu Leu Gly Val Ser Pro Thr Leu Val Asn Phe Met
145             150             .   155             160
Ile Arg Asp Ala Leu Val His Cys Arg Lys Val Ser Gly Ser Arg Arg
            165             170             175
Asp Ala Val Ala Val Gly Arg Arg
            180
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<211> 597
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<213> P. fluorescens

<220>
<221> CDS
<222> (1)...(594)

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Met Arg Thr Met Val Asp Ser Gly Gln Leu Thr Asp Pro Glu Ser Ala
1               5               10              15
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```
cgc ggc aag ttg ctg caa acc gcg gct cat ctg ttt cgc aac aag ggt    96
Arg Gly Lys Leu Leu Gln Thr Ala Ala His Leu Phe Arg Asn Lys Gly
             20              25              30

ttc gag cgc acc acc gtg cga gat ctg gcc agc gcc gtg ggc atc cag   144
Phe Glu Arg Thr Thr Val Arg Asp Leu Ala Ser Ala Val Gly Ile Gln
         35              40                  45

tcc ggc agc atc ttt cat cac ttc aag agc aag gat gag ata ttg cgt   192
Ser Gly Ser Ile Phe His His Phe Lys Ser Lys Asp Glu Ile Leu Arg
     50              55                  60

gcc gtg atg gag gaa acc acc cat tac aac acc gcg atg atg cgc gct   240
Ala Val Met Glu Glu Thr Thr His Tyr Asn Thr Ala Met Met Arg Ala
 65              70                  75                  80

tca ctg gaa gaa gcg agc acg gtg cgc gaa cgc gtg ctg gcg ctg atc   288
Ser Leu Glu Glu Ala Ser Thr Val Arg Glu Arg Val Leu Ala Leu Ile
                 85                  90                  95

cgc tgc aag ttg cag tcg atc atg ggc ggc agt ggc gag gcc atg gcg   336
Arg Cys Lys Leu Gln Ser Ile Met Gly Gly Ser Gly Glu Ala Met Ala
             100             105             110

gtg ctg gtc tac gaa tgg cgc tcg ctg tcg gcc gaa ggc cag gcg cac   384
Val Leu Val Tyr Glu Trp Arg Ser Leu Ser Ala Glu Gly Gln Ala His
         115             120             125

gtg ctg gcc ctg cgt gac gtg tat gag cag atc tgg ttg cag gta ctg   432
Val Leu Ala Leu Arg Asp Val Tyr Glu Gln Ile Trp Leu Gln Val Leu
     130             135             140

ggc gag gcc aag gcc gct ggc tac atc cgg ggc gac gtg ttt att acc   480
Gly Glu Ala Lys Ala Ala Gly Tyr Ile Arg Gly Asp Val Phe Ile Thr
145             150             155             160

cgg cgc ttc ctc acc ggg gcc tta tcc tgg acc acc acc tgg ttt cgt   528
Arg Arg Phe Leu Thr Gly Ala Leu Ser Trp Thr Thr Thr Trp Phe Arg
             165             170             175

gcc caa ggc agc ctg acc ctt gag gag ttg gcc gaa gag gcc ttg ttg   576
Ala Gln Gly Ser Leu Thr Leu Glu Glu Leu Ala Glu Glu Ala Leu Leu
             180             185             190

atg gtg ctg aag tcg gac tga                                        597
Met Val Leu Lys Ser Asp
             195
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<210> 5
<211> 198
<212> PRT

<213> P. fluorescens

<400> 5
Met Arg Thr Met Val Asp Ser Gly Gln Leu Thr Asp Pro Glu Ser Ala
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        20   25   30
Phe Glu Arg Thr Thr Val Arg Asp Leu Ala Ser Ala Val Gly Ile Gln
        35   40   45
Ser Gly Ser Ile Phe His His Phe Lys Ser Lys Asp Glu Ile Leu Arg
    50   55   60
Ala Val Met Glu Glu Thr Thr His Tyr Asn Thr Ala Met Met Arg Ala
65   70   75   80
Ser Leu Glu Glu Ala Ser Thr Val Arg Glu Arg Val Leu Ala Leu Ile
            85   90   95
Arg Cys Lys Leu Gln Ser Ile Met Gly Gly Ser Gly Glu Ala Met Ala
        100   105   110
Val Leu Val Tyr Glu Trp Arg Ser Leu Ser Ala Glu Gly Gln Ala His
        115   120   125
Val Leu Ala Leu Arg Asp Val Tyr Glu Gln Ile Trp Leu Gln Val Leu
    130   135   140
Gly Glu Ala Lys Ala Ala Gly Tyr Ile Arg Gly Asp Val Phe Ile Thr
145   150   155   160
Arg Arg Phe Leu Thr Gly Ala Leu Ser Trp Thr Thr Thr Trp Phe Arg
            165   170   175
Ala Gln Gly Ser Leu Thr Leu Glu Glu Leu Ala Glu Glu Ala Leu Leu
            180   185   190
Met Val Leu Lys Ser Asp
            195

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<213> P. fluorescens

<400> 6
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<210> 7
<211> 187
<212> PRT
<213> P. aeruginosa

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        20   25   30
Thr Gly Cys Arg Ser Arg Ala Glu Asp Val Val Gln Asp Ala Phe Phe
        35   40   45
Arg Leu Gln Ser Ala Pro Gln Ile Thr Ser Ser Glu Lys Ala Gln Leu
    50   55   60

```
Ser Tyr Leu Phe Gln Ile Val Arg Asn Leu Ala Ile Asp His Tyr Arg
65              70              75              80
Lys Gln Ala Leu Glu Gln Lys Tyr Ser Gly Pro Glu Glu Glu Gly Leu
            85              90              95
Asn Val Val Ile Gln Gly Ala Ser Pro Glu Thr Ser His Ile Asn Tyr
            100             105             110
Ala Thr Leu Glu His Ile Ala Asp Ala Leu Thr Glu Leu Pro Lys Arg
        115             120             125
Thr Arg Tyr Ala Phe Glu Met Tyr Arg Leu His Gly Val Pro Gln Lys
    130             135             140
Asp Ile Ala Lys Glu Leu Gly Val Ser Pro Thr Leu Val Asn Phe Met
145             150             155             160
Ile Arg Asp Ala Leu Val His Cys Arg Lys Val Thr Ala Glu Arg Gln
            165             170             175
Gly Asp Asn Val Thr His Leu Ser Ala Arg Arg
            180             185
```

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<210> 8
<211> 176
<212> PRT
<213> P. putida
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          20              25              30
Thr Gly Cys Arg Ser Arg Ala Glu Asp Val Val Gln Asp Ala Phe Phe
        35              40              45
Arg Leu Ser Ala Ala Pro Gln Ile Thr Ser Ser Phe Lys Ala Gln Leu
    50              55              60
Ser Tyr Leu Phe Gln Ile Val Arg Asn Leu Ala Ile Asp His Tyr Arg
65              70              75              80
Lys Gln Ala Met Glu Leu Lys Tyr Ser Gly Ser Glu Glu Glu Gly Leu
            85              90              95
Asn Val Val Ile Gln Asn Ala Ser Pro Glu Ala Thr His Ile Asn Leu
            100             105             110
Ala Ala Leu Asp Glu Ile Ala Glu Ala Leu Asn Glu Leu Pro Gln Arg
        115             120             125
Thr Arg Ser Ala Phe Glu Met Tyr Arg Leu His Gly Val Pro Gln Lys
    130             135             140
Asp Ile Ala Lys Glu Leu Gly Val Ser Pro Thr Leu Val Asn Phe Met
145             150             155             160
Ile Arg Asp Ala Leu Val His Ser Ala Lys Thr Ala Asn Arg Gln Val
            165             170             175
```

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<213> Artificial Sequence
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<220>
<223> synthetic consenusus sequence

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            20                  25                  30
Arg Ala Glu Asp Val Val Gln Asp Ala Phe Phe Arg Leu Gln Ser Ala
            35                  40                  45
Pro Ile Thr Ser Ser Phe Lys Ala Gln Leu Ser Tyr Leu Phe Gln Ile
        50                  55                  60
Val Arg Asn Leu Ala Ile Asp His Tyr Arg Lys Gln Ala Leu Glu Lys
65                  70                  75                  80
Tyr Ser Gly Glu Glu Glu Gly Leu Asn Val Val Ile Gln Gly Ala Ser
            85                  90                  95
Pro Glu Thr Ser His Ile Asn Thr Leu Glu Ile Ala Asp Ala Leu Thr
            100                 105                 110
Glu Leu Pro Arg Thr Arg Tyr Ala Phe Glu Met Tyr Arg Leu His Gly
            115                 120                 125
Val Pro Gln Lys Asp Ile Ala Lys Glu Leu Gly Val Ser Pro Thr Leu
            130                 135                 140
Val Asn Phe Met Ile Arg Asp Ala Leu Val His Cys Arg Lys Val Arg
145                 150                 155                 160
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<220>
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<223> n = A,T,C or G

<400> 10
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